

## **ABSTRACT**

An apparatus and a method of transmitting a normal packet from a transmitting node in a Wavelength Division Multiplexing (WDM) based network system are included. Using the apparatus and method in accordance with the present invention, the WDM based network system is able to avoid any collisions between the packets that are already loaded into the mini slots and the packets that are about to be loaded into the mini slots. Therefore, the defects of the synchronous packet transmitting/receiving method are eliminated. The packet-receiving channel of the packet-receiving node can be set to a fixed wavelength; consequently, the problems of the related art techniques are solved. In conclusion, the efficiency of the whole network system is greatly enhanced.